Fall 9-1-2006

RES 131T.01: Respiratory Care Fundamentals

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THE UNIVERSITY OF MONTANA-MISSOULA
COLLEGE OF TECHNOLOGY
RESPIRATORY CARE PROGRAM

COURSE SYLLABUS

COURSE NUMBER AND TITLE: RES 131T Respiratory Care Fundamentals

DATE REVISED: Fall 2006

SEMESTER CREDITS: 6

CONTACT HOURS PER SEMESTER:
Lecture hours per week: 6
Lab hours per week: 1

PREREQUISITE: Completion of Core Requirements, Acceptance into Respiratory Care Program

FACULTY:

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RELATIONSHIP TO PROGRAM:
This course offers the students the opportunity to develop fundamental knowledge of basic respiratory care prior to entry into clinical practice.

COURSE DESCRIPTION:
An orientation to basic respiratory care science including the application of principles of physics. Emphasis is on theory, operation and troubleshooting of equipment used at the entry level of practice. Microbiology in relation to equipment processing, pulmonary rehabilitation and home care are also covered.

STUDENT PERFORMANCE OUTCOMES:
Upon completion of the course the student will be able to:
1. Describe the methods if equipment cleaning.
2. Describe all aspects of pulmonary functions and discuss abnormalities.
3. Discuss the basics of electrocardiography to include lead placement, purposes, and interpretation.
4. Explain the principles of operation, indications, and trouble shooting steps for all equipment introduced in the class.

METHODS OF INSTRUCTION:
Lecture, reference reading, group discussion, and lab exercises.

STUDENT ASSESSMENT METHODS AND GRADING PROCEDURES:

EXAMS		***GRADING SCALE***					
Unit Exams	70%	A = 4.0	95-100%	B- = 2.67	80-83%	D+= 1.33	67-69%
Assignments	10%	A- = 3.67	90-94%	C+ = 2.33	77-79%	D = 1.00	64-66%
Pop Quizzes	5%	B+ = 3.33	87-89%	C = 2.00	74-76%	D-= .067	60-63%
Final Exams	15%	B = 3.00	84-86%	C- = 1.67	70-73%	F = 0.00	

Students in the Respiratory Care Program must have a "B- " final grade in order to progress within the program.

Test questions will be based on unit objectives. Unit objectives are to be used as study guides.

ATTENDANCE:

Class attendance is an integral part of this course. The test dates are included in this syllabus. Pop quizzes will be given randomly throughout the semester. Failure for the quizzes will result in a zero being recorded and used in computing your average.

OTHER POLICIES:

ACADEMIC MISCONDUCT: All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

All studnts need to be familiar with the Student Conduct Code. The Code is available for review online at http://www.umt.edu/SA/VPSA/index.cfm/page/1321.

DISABILITIES: Eligible students with disabilities will receive appropriate

accommodations in this course when requestd in a timely way. Please speak with me after class or in my office. Please be prepared to provide a letter from your DSS Coordinator.

CELL PHONES/PAGERS*:*

Due to an increasing number of students who own and use cell phones and pagers, it has become necessary to institute a policy regarding these tools during class times. As you are aware, these tools are distracting to an entire class. However, some students require them for business which allows them to further their education. Please follow these guidelines:

1. If the cell phone/pager is not business or emergency related, please turn it off.
2. Use the vibrating option on your pager.
3. Do not listen to the messages in class. Leave class quietly.
4. ***CELL PHONES AND PAGERS MUST BE TURNED OFF DURING EXAM AND CLASS PRESENTATIONS***.

SEATING:

Many classrooms have chairs to accommodate persons with disabilities. These chairs will display the international disability symbol and are assigned to a particular student. Please refrain from using these chairs or making adjustments to them unless the chair is assigned to you. If you think you may have the need for a specific chair, please contact Disability Student Services. Thank you for your cooperation.

TEST/QUIZ MAKEUP:

Make-up exams and lab experiences will only be given under extreme circumstances and then only if:

a) permission is granted ***in advance*** by the course instructor, or b) a written excuse is provided by a medical doctor. The burden of proof is on the student, so you must document and prove a justifiable absence. Not following this procedure prior to the exam will automatically result in a zero score being recorded. Missed tests need to be made up within one week of the original date given. You are responsible for contacting the Academic Support Center to schedule the make-up. Failure to do so will result in a ***ZERO*** grade for the missed test.

The faculty senate guidelines concerning the issuance of incomplete grades will be followed. Attention to critical dates such as P/NP. drop, etc. is in the responsibility of the student. Students wishing to drop the class after the drop deadline will need a documented justifiable reason for doing so. Dropping the class for fear of bad grade or to protect a GPA are ***not*** justifiable reasons. The principles embodied in the **Student Handbook Code** will be adhered to in this course.

REQUIRED TEXTS:

TITLE: Egan's Fundamentals of Respiratory Care, 8th Edition
AUTHOR: Wilkins, et al
PUBLISHER : Mosby

TITLE: Study Guide To Accompany Egan's fundamentals of Respiratory Care, 8th Edition
AUTHOR: Wehrman
PUBLISHER : Mosby

TITLE: Clinical Assessment in Respiratory Care, 5th Edition
AUTHOR: Wilkins, et al
PUBLISHER : Mosby

TITLE: Mosby's Respiratory Care Equipment, 7th Edition.
AUTHOR: Cairo, et al
PUBLISHER : Mosby

TITLE: Basic Lab Competencies for Respiratory Care, 4th Edition
AUTHOR: White, et al
PUBLISHER : Delmar

Mansfield Library Electronic Reserve Material – Student Course Page Password : RES131

THEORY:

Monday and Wednesday 8:10 a.m. - 11:00 a.m.
Friday arranged.

THE UNIVERSITY OF MONTANA-MISSOULA
COLLEGE OF TECHNOLOGY
RES 131T RESPIRATORY CARE FUNDAMENTALS

COURSE OUTLINE:

I. INTRODUCTION TO RESPIRATORY CARE
- A. History
- B. Professional Associations

II. METRICS PHYSICAL PRINCIPLES OF RESPIRATORY CARE
- A. Measurement and Scientific Notation
- B. Physical Principles of Respiratory Care
- C. Equipment Processing

III. STORAGE AND DELIVERY OF MEDICAL GASES
- A. Characteristics of Medical Gases
- B. Storage of Medical Gases
- C. Distribution and Regulation of Medical Gases

IV. MEDICAL GAS THERAPY
- A. Oxygen Therapy Rational
- B. Fluid Dynamics
- C. Oxygen Delivery Systems: Design and Performance
- D. Oxygen Therapy in Alternative Settings
- E. Hyperbaric Oxygen Thereapy
- F. Other Medical Gas Therapies
- G. Measuring FIO2
- H. Oximetry

V. HUMIDITY AND BLAND AEROSOL THERAPY

A. Humidity Therapy
B. Bland Aerosol Therapy
C. Selecting the Appropriate Therapy

VI. AEROSOL DRUG DELIVERY

A. Characteristics
B. Hazards
C. Delivery Systems
D. Assessment-based Protocols
E. Special Considerations
F. Environmental Contamination

VII. LUNG EXPANSION THERAPY

A. Causes and Types of Atelectasis
B. Indications for Lung Expansion Therapy
C. Clinical Signs of Atelectasis
D. Lung Expansion Therapy
E. Incentive Spirometry
F. Intermittent Positive Pressure Breathing (IPPB)
G. Positive airway Pressure (PAP) Therapy
H. Selecting an Approach

VIII. BRONCHIAL HYGIENE THERAPY

A. Physiology of Airway Clearance
B. General Goals and Indications
C. Determining the Need for Bronchial Hygiene Therapy
D. Bronchial Hygiene Methods
E. Selecting Bronchial Hygiene Techniques
G. Protocol-Based Bronchial Hygiene

IX. CPR

A. BLS Certification
B. Basic Airway Management

X. CARDIOPULMONARY REHABILITATION

A. Definitions and Goals
B. Historical Perspective
C. Scientific Bases
D. Pulmonary Rehabilitation Programming
E. Smoking Cessation

XI. RESPIRATORY CARE IN ALTERNATIVE SETTINGS

A. Recent Developments and Trends
B. Definitions and Goals
C. Standards
D. Traditional Acute Care Versus Postacute Care
E. Discharge Planning

WEEKLY PLAN:
Refer to the attached. Class Schedule is subject to change as necessary but revolves around the test schedule.

TEST SCHEDULE

DAY	**DATE**	**UNIT**
Friday	September 1	I. Introduction to Respiratory Care
Monday	September 18	II. Metrics Physical Principles of Respiratory Care/Equipment Processing
Monday	September 25	III. Storage and Delivery of Medical Gases
Monday	October 9	IV. Medical Gas Therapy
Monday	October 23	V. Humidity and Bland, Aerosol Therapy/Aerosol Drug Delivery
Monday	November 6	VI. Lung Expansion Therapy
Monday	November 20	VII. Bronchial Hygiene Therapy
Friday	December 1	VIII. Basic Airway Management
Monday	December 11	IX. Cardiopulmonary Rehabilitation/ Respiratory Care in Alternative Care Settings
Wednesday	December 13 (8:00-10:00)	Comprehensive Final

* Dates are subject to change at instructor's discretion.

STUDENT LEARNING ACTIVITIES:

1. Read assigned material.
2. Attend class and take notes.
3. Do work sheets/exercises in text and study guide.
4. View film strips and videos as offered.
5. Take and review unit test.